

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758



We create chemistry

Bleu de France 418 10L 10L Steel drums

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	25.04.2025	000000000050774 327	Date of first issue: 25.04.2025

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Trade name : Bleu de France 418 10L 10L Steel drums

Product code : 000000000050774327

1.2 Relevant identified uses of the substance or mixture and uses advised against

Use of the Substance/Mixture : Spraying
Basecoat product

1.3 Details of the supplier of the safety data sheet

Company:

BASF Coatings GmbH
Postfach 6123
48136 Münster
Deutschland

Contact address:

BASF plc
4th and 5th Floors, 2 Stockport Exchange
Railway Road, Stockport, SK1 3GG
United Kingdom

Telephone: +44 161 475 3000

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758



We create chemistry

Bleu de France 418 10L 10L Steel drums

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	25.04.2025	000000000050774 327	Date of first issue: 25.04.2025

E-mail address: product-safety-uk-and-ireland@basf.com

1.4 Emergency telephone

International emergency number:
Telephone: +49 180 2273-112

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008) as amended by GB-CLP Regulation, UK SI 2019/720, and UK SI 2020/1567)

Flammable liquids, Category 3	H226: Flammable liquid and vapor.
Eye irritation, Category 2	H319: Causes serious eye irritation.
Skin sensitization, Category 1	H317: May cause an allergic skin reaction.
Long-term (chronic) aquatic hazard, Category 3	H412: Harmful to aquatic life with long lasting effects.

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758



We create chemistry

Bleu de France 418 10L 10L Steel drums

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	25.04.2025	000000000050774 327	Date of first issue: 25.04.2025

2.2 Label elements

Labeling (REGULATION (EC) No 1272/2008) as amended by GB-CLP Regulation, UK SI 2019/720, and UK SI 2020/1567)

Hazard pictograms :



Signal Word : Warning

Hazard Statements :

- H226 Flammable liquid and vapor.
- H317 May cause an allergic skin reaction.
- H319 Causes serious eye irritation.
- H412 Harmful to aquatic life with long lasting effects.

Precautionary Statements : **Prevention:**

- P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758



We create chemistry

Bleu de France 418 10L 10L Steel drums

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	25.04.2025	000000000050774 327	Date of first issue: 25.04.2025

smoking.

P261 Avoid breathing mist or vapors.

P273 Avoid release to the environment.

P280 Wear protective gloves/ protective clothing/ eye protection/ face protection/ hearing protection.

Response:

P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.

P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.

Hazardous ingredients which must be listed on the label:

2,4,7,9-Tetramethyldec-5-yne-4,7-diol

1,2-benzisothiazol-3(2H)-one

2-methyl-2H-isothiazol-3-one

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758



We create chemistry

Bleu de France 418 10L 10L Steel drums

Version 1.0 Revision Date: 25.04.2025 SDS Number: 000000000050774327 Date of last issue: -
Date of first issue: 25.04.2025

2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

If applicable information is provided in this section on other hazards which do not result in classification but which may contribute to the overall hazards of the substance or mixture.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Chemical nature : organic solvent
polyurethane
pigment
inorganic compounds
fillers
Water

Components

Chemical name	CAS-No.	Classification	Concentration
---------------	---------	----------------	---------------

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758



We create chemistry

Bleu de France 418 10L 10L Steel drums

Version 1.0 Revision Date: 25.04.2025 SDS Number: 000000000050774327 Date of last issue: -
Date of first issue: 25.04.2025

	EC-No. Index-No. Registration number		n (% w/w)
2-butoxyethanol	111-76-2 203-905-0 603-014-00-0 UK-20-9702550300-0-0000 UK-20-0537843089-5-0000 UK-20-9642318150-0-0000	Acute Tox. 4; H302 Acute Tox. 4; H332 Skin Irrit. 2; H315 Eye Irrit. 2; H319	>= 7 - < 10

SAFETY DATA SHEET

According to REACH Regulation (EC) No
1907/2006, as amended by UK REACH
Regulations SI 2019/758



We create chemistry

**Bleu de France 418 10L 10L Steel
drums**

Version 1.0 Revision Date: 25.04.2025 SDS Number: 00000000050774
327 Date of last issue: - Date of first issue: 25.04.2025

butan-2-ol	78-92-2	Flam. Liq. 3; H226	>= 3 - < 5
	201-158-5	Eye Irrit. 2; H319	
	603-127-00-5	STOT SE 3; H336	
	UK-20-0537843089-5-0000	(Central nervous system) STOT SE 3; H335	
	UK-20-9642318150-0-0000	(Respiratory system)	
propylene glycol monoethyl ether	1569-02-4	Flam. Liq. 3; H226	>= 2.5 - < 3
	216-374-5	STOT SE 3; H336	
	603-177-00-8	(Central nervous system)	
	01-2119462792-32		
2,4,7,9-Tetramethyldec-5-yne-4,7-diol	126-86-3	Eye Dam. 1; H318	>= 1 - < 2
	204-809-1	Skin Sens. 1B;	
	UK-20-	H317	

SAFETY DATA SHEET

According to REACH Regulation (EC) No
1907/2006, as amended by UK REACH
Regulations SI 2019/758



We create chemistry

**Bleu de France 418 10L 10L Steel
drums**

Version 1.0 Revision Date: 25.04.2025 SDS Number: 000000000050774
327 Date of last issue: - Date of first issue: 25.04.2025

	9702550300-0-0000 UK-20-0537843089-5-0000 UK-20-9642318150-0-0000	Aquatic Chronic 3; H412	
2-dimethylaminoethanol	108-01-0 203-542-8 603-047-00-0 UK-20-0537843089-5-0000 UK-20-9642318150-0-0000	Flam. Liq. 3; H226 Acute Tox. 4; H302 Acute Tox. 3; H331 Acute Tox. 4; H312 Skin Corr. 1B; H314 Eye Dam. 1; H318	>= 0.3 - < 0.5

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758



We create chemistry

Bleu de France 418 10L 10L Steel drums

Version 1.0 Revision Date: 25.04.2025 SDS Number: 000000000050774 327 Date of last issue: -
 Date of first issue: 25.04.2025

		STOT SE 3; H335 (Respiratory system) _____ specific concentration limit STOT SE 3; H335 >= 5 %	
3-(3-Isodecyloxypropylamino)propylamine	72162-46-0 276-432-0 UK-20-0537843089-5-0000	Acute Tox. 3; H301 Skin Corr. 1A; H314 Aquatic Acute 1; H400 Aquatic	>= 0.025 - < 0.1

SAFETY DATA SHEET

According to REACH Regulation (EC) No
1907/2006, as amended by UK REACH
Regulations SI 2019/758



We create chemistry

**Bleu de France 418 10L 10L Steel
drums**

Version 1.0 Revision Date: 25.04.2025 SDS Number: 00000000050774
327 Date of last issue: - Date of first issue: 25.04.2025

		Chronic 1; H410	
		M-Factor (Acute aquatic toxicity): 1	
		M-Factor (Chronic aquatic toxicity): 10	
1,2-benzisothiazol-3(2H)-one	2634-33-5 220-120-9 613-088-00-6 UK-20-9702550300-0-0000 UK-20-0537843089-5-0000	Acute Tox. 4; H302 Skin Irrit. 2; H315 Eye Dam. 1; H318 Skin Sens. 1; H317 Aquatic Acute 1; H400 Aquatic	>= 0.0025 - < 0.025

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758



We create chemistry

Bleu de France 418 10L 10L Steel drums

Version 1.0 Revision Date: 25.04.2025 SDS Number: 000000000050774 327 Date of last issue: -
 Date of first issue: 25.04.2025

		Chronic 1; H410 <hr/> M-Factor (Acute aquatic toxicity): 1 M-Factor (Chronic aquatic toxicity): 1 <hr/> specific concentration limit Skin Sens. 1; H317 >= 0.05 %	
2-methyl-2H-isothiazol-3-one	2682-20-4	Acute Tox. 3;	>= 0.0002 - <

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758



We create chemistry

Bleu de France 418 10L 10L Steel drums

Version 1.0 Revision Date: 25.04.2025 SDS Number: 000000000050774327 Date of last issue: -
Date of first issue: 25.04.2025

	220-239-6	H301	0.0015
	613-326-00-9	Acute Tox. 2; H330	
	UK-20-9702550300-0-0000	Acute Tox. 3; H311	
	UK-20-0537843089-5-0000	Skin Corr. 1B; H314	
		Eye Dam. 1; H318	
		Skin Sens. 1A; H317	
		Aquatic Acute 1; H400	
		Aquatic Chronic 1; H410	

		M-Factor (Acute aquatic toxicity):	

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758



We create chemistry

Bleu de France 418 10L 10L Steel drums

Version 1.0 Revision Date: 25.04.2025 SDS Number: 00000000050774 327 Date of last issue: -
Date of first issue: 25.04.2025

		10 M-Factor (Chronic aquatic toxicity): 1 <hr/> specific concentration limit Skin Sens. 1A; H317 >= 0.0015 %	
Substances with a workplace exposure limit :			
Titanium dioxide	13463-67-7 236-675-5 UK-20-2749242067-7-		>= 7 - < 10

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758



We create chemistry

Bleu de France 418 10L 10L Steel drums

Version 1.0 Revision Date: 25.04.2025 SDS Number: 000000000050774327 Date of last issue: -
Date of first issue: 25.04.2025

	0000 UK-20- 9702550300-0- 0000 UK-20- 0537843089-5- 0000 UK-20- 9642318150-0- 0000		
copper phthalocyanine blue	147-14-8 205-685-1 01-2119458771-32		>= 1 - < 2

For explanation of abbreviations see section 16.

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758



We create chemistry

Bleu de France 418 10L 10L Steel drums

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	25.04.2025	000000000050774 327	Date of first issue: 25.04.2025

SECTION 4: First aid measures

4.1 Description of first-aid measures

General advice : First aid personnel should pay attention to their own safety.
If the patient is likely to become unconscious, place and transport in stable sideways position (recovery position).
Immediately remove contaminated clothing.
In all cases of doubt, or when symptoms persist, seek medical attention.
Move out of dangerous area.
Never give anything by mouth to an unconscious person.

If inhaled : If symptoms persist, call a physician.
If breathed in, move person into fresh air.
If breathing is irregular or stopped, administer artificial respiration.

In case of skin contact : If symptoms persist, call a physician.

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758



We create chemistry

Bleu de France 418 10L 10L Steel drums

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	25.04.2025	000000000050774 327	Date of first issue: 25.04.2025

Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes.

Do NOT use solvents or thinners.

In case of eye contact : Immediately wash affected eyes for at least 15 minutes under running water with eyelids held open, consult an eye specialist.

Call a physician immediately.

If easy to do, remove contact lens, if worn.

If swallowed : If symptoms persist, call a physician.

Do NOT induce vomiting.

Rinse mouth.

4.2 Most important symptoms and effects, both acute and delayed

SAFETY DATA SHEET

According to REACH Regulation (EC) No
1907/2006, as amended by UK REACH
Regulations SI 2019/758



We create chemistry

Bleu de France 418 10L 10L Steel drums

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	25.04.2025	000000000050774 327	Date of first issue: 25.04.2025

Symptoms : Information, i.e. additional information on symptoms and effects may be included in the GHS labeling phrases available in Section 2 and in the Toxicological assessments available in Section 11.

Risks : May cause an allergic skin reaction.
Causes serious eye irritation.

4.3 Indication of any immediate medical attention and special treatment needed

Treatment : No known specific antidote.
Treat symptomatically.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media : Water spray jet
Dry powder
Alcohol-resistant foam

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758



We create chemistry

Bleu de France 418 10L 10L Steel drums

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	25.04.2025	000000000050774 327	Date of first issue: 25.04.2025

Carbon dioxide (CO₂)

Unsuitable extinguishing media : High volume water jet

5.2 Special hazards arising from the substance or mixture

Specific hazards during fire fighting : Fire will produce dense black smoke containing hazardous combustion products (see section 10).

5.3 Advice for firefighters

Special protective equipment for fire-fighters : Appropriate breathing apparatus may be required.

Further information : In the event of fire, cool tanks with water spray.
Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758



We create chemistry

Bleu de France 418 10L 10L Steel drums

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	25.04.2025	000000000050774 327	Date of first issue: 25.04.2025

regulations.

Collect contaminated fire extinguishing water separately.
This must not be discharged into drains.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions : Avoid breathing vapours.

Keep away from sources of ignition.

Advice on product handling can be found in sections 7 and 8 of this safety data sheet.

For non-emergency personnel:

For emergency responders:

Use personal protective equipment.

Ensure adequate ventilation, especially in confined areas.

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758



We create chemistry

Bleu de France 418 10L 10L Steel drums

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	25.04.2025	000000000050774 327	Date of first issue: 25.04.2025

6.2 Environmental precautions

Environmental precautions : Do not allow uncontrolled discharge of product into the environment.

Avoid subsoil penetration.

If the product contaminates rivers and lakes or drains inform respective authorities.

6.3 Methods and material for containment and cleaning up

Methods for cleaning up : Ensure adequate ventilation.

Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local / national regulations (see section 13).

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758



We create chemistry

Bleu de France 418 10L 10L Steel drums

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	25.04.2025	000000000050774 327	Date of first issue: 25.04.2025

6.4 Reference to other sections

For disposal considerations see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advice on safe handling : Provide good ventilation of working area (local exhaust ventilation if necessary).

Do not return residues to the storage containers.

Smoking, eating and drinking are forbidden in application area. For personal protection see section 8. Comply with the health and safety at work laws.

When operators, whether spraying or not, have to work inside the spray booth, ventilation is unlikely to be sufficient to control particulates and solvent vapour in all cases. In such circumstances they should wear a compressed air-fed respirator during the spraying process and until such time as the particulates and solvent vapour concentration has fallen below the exposure limits.

The workplace should be equipped with an emergency

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758



We create chemistry

Bleu de France 418 10L 10L Steel drums

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	25.04.2025	000000000050774 327	Date of first issue: 25.04.2025

shower and eye-rinsing facility.

Avoid contact with the skin, eyes and clothing.

Handle in accordance with good industrial hygiene and safety practice.

Do not breathe vapors or spray mist.

Advice on protection against fire and explosion : Avoid all sources of ignition: heat, sparks, open flame. Product may charge electrostatically: always use earthing leads when transferring from one container to another and earth containers. It is recommended that operators should wear antistatic clothing and footwear. The relevant fire protection measures should be noted. Use explosion-proof equipment. Vapors are heavier than air and may spread along floors. Vapors may form explosive mixtures with air.

Hygiene measures : Remove contaminated clothing immediately and dispose of safely. Wash hands before breaks and at the end of workday. Keep away from food, drink and animal

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758



We create chemistry

Bleu de France 418 10L 10L Steel drums

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	25.04.2025	00000000050774 327	Date of first issue: 25.04.2025

feedingstuffs.

7.2 Conditions for safe storage, including any incompatibilities

Further information on storage conditions : Keep away from heat. Avoid direct sunlight. Close containers carefully once opened and store them upright in order to prevent any leakage. No smoking. No admission for unauthorised personnel. Always keep in containers of same material as the original one. Observe label precautions. Store protected against freezing. Keep in a dry, cool and well-ventilated place.

Advice on common storage : Keep away from oxidizing agents, strongly alkaline and strongly acid materials in order to avoid exothermic reactions.

Recommended storage temperature : 5 - 40 °C

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758



We create chemistry

Bleu de France 418 10L 10L Steel drums

Version 1.0 Revision Date: 25.04.2025 SDS Number: 00000000050774 327 Date of last issue: -
Date of first issue: 25.04.2025

Packaging material : Suitable material: Carbon steel (Iron), tinned carbon steel (Tinplate)

7.3 Specific end use(s)

Specific use(s) : Please refer to the technical leaflet for further information.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure Limits

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
2-butoxyethanol	111-76-2	TWA	25 ppm 123 mg/m ³	GB EH40
	Further information: Can be absorbed through the skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity.			

SAFETY DATA SHEET

According to REACH Regulation (EC) No
1907/2006, as amended by UK REACH
Regulations SI 2019/758



We create chemistry

**Bleu de France 418 10L 10L Steel
drums**

Version 1.0 Revision Date: 25.04.2025 SDS Number: 00000000050774
327 Date of last issue: - Date of first issue: 25.04.2025

		STEL	50 ppm 246 mg/m3	GB EH40
	Further information: Can be absorbed through the skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity.			
		TWA	20 ppm 98 mg/m3	2000/39/EC
	Further information: Identifies the possibility of significant uptake through the skin, Indicative			
		STEL	50 ppm 246 mg/m3	2000/39/EC
	Further information: Identifies the possibility of significant uptake through the skin, Indicative			
Titanium dioxide	13463-67-7	TWA (inhalable dust)	10 mg/m3	GB EH40
		TWA	4 mg/m3	GB EH40

SAFETY DATA SHEET

According to REACH Regulation (EC) No
1907/2006, as amended by UK REACH
Regulations SI 2019/758



We create chemistry

**Bleu de France 418 10L 10L Steel
drums**

Version 1.0 Revision Date: 25.04.2025 SDS Number: 00000000050774
327 Date of last issue: - Date of first issue: 25.04.2025

		(Respirable dust)		
butan-2-ol	78-92-2	TWA	100 ppm 308 mg/m ³	GB EH40
		STEL	150 ppm 462 mg/m ³	GB EH40
copper phthalocyanine blue	147-14-8	TWA (Dusts and mists)	1 mg/m ³ (Copper)	GB EH40
		STEL (Dusts and mists)	2 mg/m ³ (Copper)	GB EH40
2-dimethylaminoethanol	108-01-0	TWA	2 ppm 7.4 mg/m ³	GB EH40
		STEL	6 ppm 22 mg/m ³	GB EH40

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758



We create chemistry

Bleu de France 418 10L 10L Steel drums

Version 1.0 Revision Date: 25.04.2025 SDS Number: 000000000050774327 Date of last issue: -
Date of first issue: 25.04.2025

Biological occupational exposure limits

Substance name	CAS-No.	Control parameters	Sampling time	Basis
2-butoxyethanol	111-76-2	butoxyacetic acid: 240 Millimoles per mole creatinine (Urine)	After shift	GB EH40 BAT

8.2 Exposure controls

Engineering measures

Ensure adequate ventilation.

Personal protective equipment

Eye/face protection : Tightly fitting safety goggles (splash goggles) (e.g. EN 166)

Required when there is a risk of eye contact.

Hand protection

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758



We create chemistry

Bleu de France 418 10L 10L Steel drums

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	25.04.2025	000000000050774 327	Date of first issue: 25.04.2025

Remarks : Wear protective gloves. Any chemical protection glove certified according to EN ISO 374-1 is suitable: e.g. nitrile gloves - material thickness: 0,35 mm Further information on penetration time is available from the manufacturer of the glove. Data are based on information from the glove manufacturer, the raw material manufacturer or according to specifics of the product components. The suitability for a specific workplace should be discussed with the producers of the protective gloves. Request information on glove permeation properties from the glove supplier. Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough. Preventive skin protection Suitable materials for short-term contact (recommended: At least protective index 2, corresponding > 30 minutes of permeation time according to EN ISO 374-1) Suitable materials also with prolonged, direct contact (Recommended: Protective index 6, corresponding > 480 minutes of permeation time according to EN ISO 374-1): Suitable materials against splashes (recommended: At least protective

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758



We create chemistry

Bleu de France 418 10L 10L Steel drums

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	25.04.2025	000000000050774 327	Date of first issue: 25.04.2025

index 1, corresponding > 10 minutes of permeation time according to EN ISO 374-1)

- Skin and body protection : Anti-static protective clothing
- Personnel should wear antistatic, flame-retardant clothing made of natural fibres and/or heat-resistant synthetic fibres.
- Respiratory protection : Suitable respiratory equipment:
- half-mask with A1P2 class combination filter
- When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.
- In case of mist, spray or aerosol exposure wear suitable personal respiratory protection and protective suit.
- Protective measures : Do not breathe vapour/spray.
- Eye wash fountains and safety showers must be easily accessible.
- If these are not sufficient to maintain concentrations at

SAFETY DATA SHEET

According to REACH Regulation (EC) No
1907/2006, as amended by UK REACH
Regulations SI 2019/758



We create chemistry

Bleu de France 418 10L 10L Steel drums

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	25.04.2025	000000000050774 327	Date of first issue: 25.04.2025

the workplace below the occupational exposure limits,
appropriate certified respirators must be worn.

Avoid contact with the skin, eyes and clothing.

Handle in accordance with good industrial hygiene and
safety practice.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance	:	liquid
Color	:	blue
Odor	:	of glycol
pH	:	6.0 - 9.0
Melting point/ range	:	not determined
Boiling point/boiling range	:	100 °C
Flash point	:	54 °C
		Method: ISO 3679
Lower explosion limit / Lower flammability limit	:	> 35 g/m ³

SAFETY DATA SHEET

According to REACH Regulation (EC) No
1907/2006, as amended by UK REACH
Regulations SI 2019/758



We create chemistry

Bleu de France 418 10L 10L Steel drums

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	25.04.2025	000000000050774 327	Date of first issue: 25.04.2025

Vapor pressure	:	23.6100 hPa (20 °C) Method: other (calculated) not determined (50 °C)
Relative vapor density	:	Lighter than air.
Density	:	1.093 g/cm ³ (20 °C)
Solubility(ies)	:	
Water solubility	:	not determined
Partition coefficient: n- octanol/water	:	not applicable for mixtures
Autoignition temperature	:	> 200 °C
Decomposition temperature	:	No decomposition if stored and handled as prescribed/indicated.
Viscosity	:	
Viscosity, kinematic	:	411.6 mm ² /s (23 °C) not determined (40 °C)
Flow time	:	> 60 s at 23 °C Cross section: 6 mm Method: ISO 2431

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758



We create chemistry

Bleu de France 418 10L 10L Steel drums

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	25.04.2025	000000000050774 327	Date of first issue: 25.04.2025

Explosive properties : Not explosive

Oxidizing properties : The substance or mixture is not classified as oxidizing.

9.2 Other information

Flammability (liquids) : Flammable liquid and vapour.

Self-heating substances : The substance or mixture is not classified as self heating.

Metal corrosion rate : Not corrosive to metals.

SECTION 10: Stability and reactivity

10.1 Reactivity

No dangerous reaction known under conditions of normal use.

10.2 Chemical stability

No decomposition if stored and applied as directed.

10.3 Possibility of hazardous reactions

Hazardous reactions : Vapours may form ignitable mixture with air.

10.4 Conditions to avoid

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758



We create chemistry

Bleu de France 418 10L 10L Steel drums

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	25.04.2025	000000000050774 327	Date of first issue: 25.04.2025

Conditions to avoid : Avoid direct sunlight.
Protect from frost.
Heat, flames and sparks.
Heat.

10.5 Incompatible materials

Materials to avoid : Keep away from oxidizing agents, strongly alkaline and strongly acid materials in order to avoid exothermic reactions.

10.6 Hazardous decomposition products

No decomposition if stored and applied as directed.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Based on available data, the classification criteria are not met.

Product:

SAFETY DATA SHEET

According to REACH Regulation (EC) No
1907/2006, as amended by UK REACH
Regulations SI 2019/758



We create chemistry

Bleu de France 418 10L 10L Steel drums

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	25.04.2025	000000000050774 327	Date of first issue: 25.04.2025

Acute oral toxicity : Acute toxicity estimate: > 2,000 mg/kg
Method: Calculation method

Acute inhalation toxicity : Acute toxicity estimate: > 20 mg/l
Exposure time: 4 h
Test atmosphere: vapor
Method: Calculation method

Components:

2-butoxyethanol:

Acute oral toxicity : LD50 (guinea pig): 1,200 mg/kg

2-dimethylaminoethanol:

Acute oral toxicity : LD50 (Rat): 1,183 mg/kg

Acute inhalation toxicity : LC50 (Rat): 6.1 mg/l

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758



We create chemistry

Bleu de France 418 10L 10L Steel drums

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	25.04.2025	000000000050774 327	Date of first issue: 25.04.2025

Exposure time: 4 h

Test atmosphere: vapor

Acute dermal toxicity : LD50 (Rabbit): 1,219 mg/kg

2-methyl-2H-isothiazol-3-one:

Acute inhalation toxicity : LC50 (Rat, male and female): 0.11 mg/l
Exposure time: 4 h

Test atmosphere: dust/mist

Method: OECD Test Guideline 403

GLP: yes

Skin corrosion/irritation

Based on available data, the classification criteria are not met.

Serious eye damage/eye irritation

Causes serious eye irritation.

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758



We create chemistry

Bleu de France 418 10L 10L Steel drums

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	25.04.2025	000000000050774 327	Date of first issue: 25.04.2025

Respiratory or skin sensitization

Skin sensitization

May cause an allergic skin reaction.

Respiratory sensitization

Based on available data, the classification criteria are not met.

Germ cell mutagenicity

Based on available data, the classification criteria are not met.

Carcinogenicity

Based on available data, the classification criteria are not met.

Reproductive toxicity

Based on available data, the classification criteria are not met.

STOT-single exposure

Based on available data, the classification criteria are not met.

STOT-repeated exposure

Based on available data, the classification criteria are not met.

Aspiration toxicity

Based on available data, the classification criteria are not met.

SECTION 12: Ecological information

12.1 Toxicity

Components:

3-(3-Isodecyloxypropylamino)propylamine:

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758



We create chemistry

Bleu de France 418 10L 10L Steel drums

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	25.04.2025	000000000050774 327	Date of first issue: 25.04.2025

M-Factor (Acute aquatic toxicity) : 1

M-Factor (Chronic aquatic toxicity) : 10

1,2-benzisothiazol-3(2H)-one:

M-Factor (Acute aquatic toxicity) : 1

M-Factor (Chronic aquatic toxicity) : 1

2-methyl-2H-isothiazol-3-one:

M-Factor (Acute aquatic toxicity) : 10

M-Factor (Chronic aquatic toxicity) : 1

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758



We create chemistry

Bleu de France 418 10L 10L Steel drums

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	25.04.2025	000000000050774 327	Date of first issue: 25.04.2025

12.2 Persistence and degradability

No data available

12.3 Bioaccumulative potential

Components:

2-butoxyethanol:

Partition coefficient: n- : log Pow: 0.81 (25 °C)
octanol/water
GLP: no

butan-2-ol:

Partition coefficient: n- : log Pow: 0.61
octanol/water
GLP: no

Remarks: Information taken from reference works and the literature.

propylene glycol monoethyl ether:

Partition coefficient: n- : log Pow: 0 (20 °C)
octanol/water
pH: 7

SAFETY DATA SHEET

According to REACH Regulation (EC) No
1907/2006, as amended by UK REACH
Regulations SI 2019/758



We create chemistry

Bleu de France 418 10L 10L Steel drums

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	25.04.2025	000000000050774 327	Date of first issue: 25.04.2025

2,4,7,9-Tetramethyldec-5-yne-4,7-diol:

Partition coefficient: n- : log Pow: 2.64
octanol/water

2-dimethylaminoethanol:

Partition coefficient: n- : log Pow: -0.55 (23 °C)
octanol/water

3-(3-Isodecyloxypropylamino)propylamine:

Partition coefficient: n- : log Pow: 2.7 (23 °C)
octanol/water
pH: 7.9 - 8.3

Method: OECD Test Guideline 107

GLP: no

1,2-benzisothiazol-3(2H)-one:

Partition coefficient: n- : log Pow: 0.7 (20 °C)

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758



We create chemistry

Bleu de France 418 10L 10L Steel drums

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	25.04.2025	000000000050774 327	Date of first issue: 25.04.2025

octanol/water

GLP: yes

2-methyl-2H-isothiazol-3-one:

Partition coefficient: n- : log Pow: -0.486 (25 °C)
octanol/water

pH: 7

Method: OECD Test Guideline 107

GLP: yes

Titanium dioxide:

Partition coefficient: n- : Remarks: Not applicable
octanol/water

copper phthalocyanine blue:

Partition coefficient: n- : log Pow: -1.0 (23 °C)
octanol/water

12.4 Mobility in soil

No data available

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758



We create chemistry

Bleu de France 418 10L 10L Steel drums

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	25.04.2025	000000000050774 327	Date of first issue: 25.04.2025

12.5 Results of PBT and vPvB assessment

Product:

Assessment : This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Other adverse effects

Product:

Endocrine disrupting potential : This substance/mixture does not contain components considered to have endocrine disrupting properties for environment according to UK REACH Article 57(f).

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product : Do not discharge into drains/surface waters/groundwater.

Observe national and local legal requirements.

SAFETY DATA SHEET

According to REACH Regulation (EC) No
1907/2006, as amended by UK REACH
Regulations SI 2019/758



We create chemistry

Bleu de France 418 10L 10L Steel drums

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	25.04.2025	000000000050774 327	Date of first issue: 25.04.2025

Contaminated packaging : Containers which are not properly emptied must be disposed pursuant to Directive 2008/98/EC

Packaging that is not properly emptied must be disposed of as the unused product.

SECTION 14: Transport information

14.1 UN number

ADN	: UN 1263
ADR	: UN 1263
RID	: UN 1263
IMDG	: UN 1263
IATA	: UN 1263

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758



We create chemistry

Bleu de France 418 10L 10L Steel drums

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	25.04.2025	000000000050774 327	Date of first issue: 25.04.2025

14.2 UN proper shipping name

ADN : PAINT

ADR : PAINT

RID : PAINT

IMDG : PAINT

IATA : PAINT

14.3 Transport hazard class(es)

	Class	Subsidiary risks
ADN	: 3	
ADR	: 3	
RID	: 3	
IMDG	: 3	

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758



We create chemistry

Bleu de France 418 10L 10L Steel drums

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	25.04.2025	000000000050774 327	Date of first issue: 25.04.2025

IATA : 3

14.4 Packing group

ADN

Packing group : III

Classification Code : F1

Hazard Identification
Number : 30

Labels : 3

ADR

Packing group : III

Classification Code : F1

Hazard Identification
Number : 30

Labels : 3

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758



We create chemistry

Bleu de France 418 10L 10L Steel drums

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	25.04.2025	000000000050774 327	Date of first issue: 25.04.2025

Tunnel restriction code : (D/E)

RID

Packing group : III

Classification Code : F1

Hazard Identification : 30
Number

Labels : 3

IMDG

Packing group : III

Labels : 3

EmS Code : F-E, S-E

IATA (Cargo)

Packing instruction (cargo : 366
aircraft)

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758



We create chemistry

Bleu de France 418 10L 10L Steel drums

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	25.04.2025	000000000050774 327	Date of first issue: 25.04.2025

Packing instruction (LQ) : Y344
Packing group : III
Labels : Flammable Liquids

IATA (Passenger)

Packing instruction (passenger aircraft) : 355
Packing instruction (LQ) : Y344
Packing group : III
Labels : Flammable liquid

14.5 Environmental hazards

ADN

Environmentally hazardous : no

ADR

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758



We create chemistry

Bleu de France 418 10L 10L Steel drums

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	25.04.2025	000000000050774 327	Date of first issue: 25.04.2025

Environmentally hazardous : no

RID

Environmentally hazardous : no

IMDG

Marine pollutant : no

14.6 Special precautions for user

Remarks : ADR: Packages smaller than or equal to 450 liters, not goods/merchandise of Class 3

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

14.7 Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable for product as supplied.

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758



We create chemistry

Bleu de France 418 10L 10L Steel drums

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	25.04.2025	000000000050774 327	Date of first issue: 25.04.2025

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

Relevant EU provisions transposed through retained EU law

UK REACH List of restrictions (Annex 17)	:	Conditions of restriction for the following entries should be considered: Number on list 3
UK REACH Candidate list of substances of very high concern (SVHC) for Authorisation	:	Not applicable
The Persistent Organic Pollutants Regulations (retained Regulation (EU) 2019/1021 as amended for Great Britain)	:	Not applicable
Regulation (EC) on substances that deplete the ozone layer	:	Not applicable
UK REACH List of substances subject to	:	Not applicable

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758



We create chemistry

Bleu de France 418 10L 10L Steel drums

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	25.04.2025	000000000050774 327	Date of first issue: 25.04.2025

authorisation (Annex XIV)

Control of Major Accident Hazards Regulations 2015 (COMAH) P5c FLAMMABLE LIQUIDS

Volatile organic compounds : Volatile organic compounds (VOC) content: 419 g/l

Directive 2010/75/EU of 24 November 2010 on industrial emissions (integrated pollution prevention and control)

Volatile organic compounds (VOC) content: 17.46 %

Other regulations:

Take note of The Management of Health and Safety at Work Regulations 1999 (requirements relating to new and expectant mothers at work contained in Regulation 16 to 18) and of the Pregnant Workers Directive 92/85/EEC.

Take note of The Management of Health and Safety at Work Regulations 1999

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758



We create chemistry

Bleu de France 418 10L 10L Steel drums

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	25.04.2025	000000000050774 327	Date of first issue: 25.04.2025

(requirements relating to protection of young people at work contained in Regulation 19) and of Directive 94/33/EC on the protection of young people at work.

Details relating to the VOC Directive 2004/42/EC:

Subcategory as indicated in Annex IIB:

d

Limit value for maximum VOC content as specified in Annex IIB:

420 g/l

VOC content of the ready-for-use product according to ISO 11890-2:

420 g/l

15.2 Chemical Safety Assessment

Assessment of safe use has been performed for the mixture and the result is documented in section 7 and 8 of the SDS

SECTION 16: Other information

Full text of H-Statements

H226	:	Flammable liquid and vapor.
H301	:	Toxic if swallowed.
H302	:	Harmful if swallowed.
H311	:	Toxic in contact with skin.
H312	:	Harmful in contact with skin.
H314	:	Causes severe skin burns and eye damage.
H315	:	Causes skin irritation.
H317	:	May cause an allergic skin reaction.
H318	:	Causes serious eye damage.
H319	:	Causes serious eye irritation.

SAFETY DATA SHEET

According to REACH Regulation (EC) No
1907/2006, as amended by UK REACH
Regulations SI 2019/758



We create chemistry

Bleu de France 418 10L 10L Steel drums

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	25.04.2025	000000000050774 327	Date of first issue: 25.04.2025

H330	: Fatal if inhaled.
H331	: Toxic if inhaled.
H332	: Harmful if inhaled.
H335	: May cause respiratory irritation.
H336	: May cause drowsiness or dizziness.
H400	: Very toxic to aquatic life.
H410	: Very toxic to aquatic life with long lasting effects.
H412	: Harmful to aquatic life with long lasting effects.

Full text of other abbreviations

Acute Tox.	: Acute toxicity
Aquatic Acute	: Short-term (acute) aquatic hazard
Aquatic Chronic	: Long-term (chronic) aquatic hazard
Eye Dam.	: Serious eye damage
Eye Irrit.	: Eye irritation
Flam. Liq.	: Flammable liquids
Skin Corr.	: Skin corrosion
Skin Irrit.	: Skin irritation
Skin Sens.	: Skin sensitization
STOT SE	: Specific target organ toxicity - single exposure
2000/39/EC	: Europe. Commission Directive 2000/39/EC establishing a first list of indicative occupational exposure limit values
GB EH40	: UK. EH40 WEL - Workplace Exposure Limits
GB EH40 BAT	: UK. Biological monitoring guidance values
2000/39/EC / TWA	: Limit Value - eight hours
2000/39/EC / STEL	: Short term exposure limit
GB EH40 / TWA	: Long-term exposure limit (8-hour TWA reference period)
GB EH40 / STEL	: Short-term exposure limit (15-minute reference period)

SAFETY DATA SHEET

According to REACH Regulation (EC) No
1907/2006, as amended by UK REACH
Regulations SI 2019/758



We create chemistry

Bleu de France 418 10L 10L Steel drums

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	25.04.2025	000000000050774 327	Date of first issue: 25.04.2025

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - Agreement concerning the International Carriage of Dangerous Goods by Road; AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - substance of very high concern; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758



We create chemistry

Bleu de France 418 10L 10L Steel drums

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	25.04.2025	000000000050774 327	Date of first issue: 25.04.2025

Further information

Other information : For multi-pack systems observe material safety data sheets of all components.
Restricted to professional users.

Classification of the mixture:

Flam. Liq. 3	H226
Eye Irrit. 2	H319
Skin Sens. 1	H317
Aquatic Chronic 3	H412

Classification procedure:

Based on product data or assessment
Calculation method
Calculation method
Calculation method

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

GB / EN